

Weekly report (2012.8.20~8.26)

Done

- 1) In the previous implementation, I finish the rendering with two MapReduce (first split, then parallel rendering). At the end of last report I mentioned that the two steps can merge into one, that is to say, finish the rendering in the reduce of the first step. Cause we do not need to upload/download the intermediate scenes, it obviously can speedup. So this week I finish this idea and the result is shown in Figure 1

Figure 1 result of merged implementation compared to the previous one

	Step1:split	Step2:render	merged
Instance Number	3600Map 100Reduce	100Map	3600Map 100Reduce
MapCostTime	9m5s	3m42s	3m10s
Max MapTime	11s	3m6s	17s
ReduceCostTime	4m24s	11s	4m27s
Max ReduceTime	2m58s	1s	3m55s
Total Time	13m36s	3m59s	7m39s

- 2) As to the Meteorology Project, I improve my rasterize implementation by integrating the Bresenham algorithm, so the algorithm can get rid of cumulative error.

To Do

- 1) Show the rasterize implementation to my partners in the Meteorology Project and discuss the plan to implement parallel rasterization using MPI.
- 2) Implement the triangulate algorithm to make polygon triangles.